

relation to milk and Gupta, S. & Hills, G. (1956), "A Precision Electrode-less Conductance Cell for use at Audio Frequencies" discloses a similar electrical arrangement. Both arrangements comprise a current loop coupled between an energising circuit and a sensing circuit via two toroidal transformers.

5 However, these arrangements are unsuitable for various applications such as vat applications because the material being measured fouls and blocks the current loop, which further causes problems when the vat has to be cleaned.

Another problem with these arrangements is that they suffer from supply energisation fluctuations, which cause measurement noise and require
10 stabilisation of the power supply and supply voltage monitoring.

Hence, there is a need for a system and/or method and/or apparatus for accurately measuring electrical conductivity that addresses or at least ameliorates the aforementioned problems. In particular, such a system, method and/or apparatus is required for measuring electrical conductivity in materials
15 having a low electrical conductivity.

In this specification, the terms "comprises", "comprising" or similar terms are intended to mean a non-exclusive inclusion, such that a method, system or apparatus that comprises a list of elements does not include those elements solely, but may well include other elements not listed.

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SUMMARY OF THE INVENTION

In one form, although it need not be the only or indeed the broadest form, the invention resides in an apparatus for measuring electrical conductivity in a material, said apparatus comprising:

25 a pair of electrically conducting elements for contacting the material;